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Smoking During Pregnancy Is on the Decline; New Interventions Aimed at Low-Income Women

Smoking during pregnancy increases risk of perinatal mortality (both stillbirth and neonatal deaths), low birthweight (leading to a variety of adverse infant health outcomes), and sudden infant death syndrome (SIDS). Maternal exposure to secondhand smoke has been associated with low birthweight. Our most recent Washington data indicate that about one in 10 infants — about 8,000 per year — is born to a mother who smokes during her third trimester.

The Washington State Tobacco Prevention and Control (TPC) program's objective is to reduce the number of women who smoke during pregnancy to 8% or less in 2010, as measured by the Pregnancy Risk Assessment Monitoring System (PRAMS). The PRAMS survey is conducted at approximately three months postpartum among a statewide sample of resident Washington mothers. Information is collected on a variety of maternal risk factors, including tobacco use prior to pregnancy, during the third trimester, and at postpartum.

Smoking during pregnancy decreased statewide from 13.0% (± 2.3%) in 1998, the year prior to implementation of a pilot pregnancy intervention for smoking, to 9.9% (± 2.3%) in 2001. The difference is non-significant (P = .08); however, the decline is validated by a significant drop in smoking during pregnancy reported on birth certificates, from 14.6% (± 0.3%) in 1998 to 12.0% (± 0.2%) in 2002. Nationally, a more modest decline occurred for maternal smoking as reported on birth certificates: 12.9% in 1998 to 11.4% in 2002. Changes to date likely reflect a modest secular trend and decreases in smoking among the general Washington population as a result of the TPC program.

Figure 1 (page 2) displays smoking during pregnancy measured by PRAMS in 2001. The highest rates in 2001 were seen among young, low-income, less educated, and Native American women.

Of the women who smoked 3 months prior to their pregnancy (21% ± 3%), about half were able to quit by the third trimester. Of those who quit, about half relapsed after delivery and were smoking again at the time of the survey (15% ± 3% of all mothers smoked at 2–5 months postpartum). Small numbers prevent significant comparisons, but quitting rates appear lowest and relapse rates highest among the young, low-income, and less educated mothers.

Research indicates that women underreport smoking during pregnancy in response to social disapproval. With the

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Smoking *(from page 1)*

implementation of a statewide comprehensive TPC program, including an aggressive media campaign in 2000, the declines reported may be partially the result of increases in under-reporting instead of reductions in smoking. However, any changes caused by increasing social norms against smoking during pregnancy can be considered a success in changing the health culture of Washington. It will be important, as more data become available over time, to examine trends within specific population subgroups to ensure that reductions in smoking occur for all groups of women.

New Smoking Reduction Initiatives

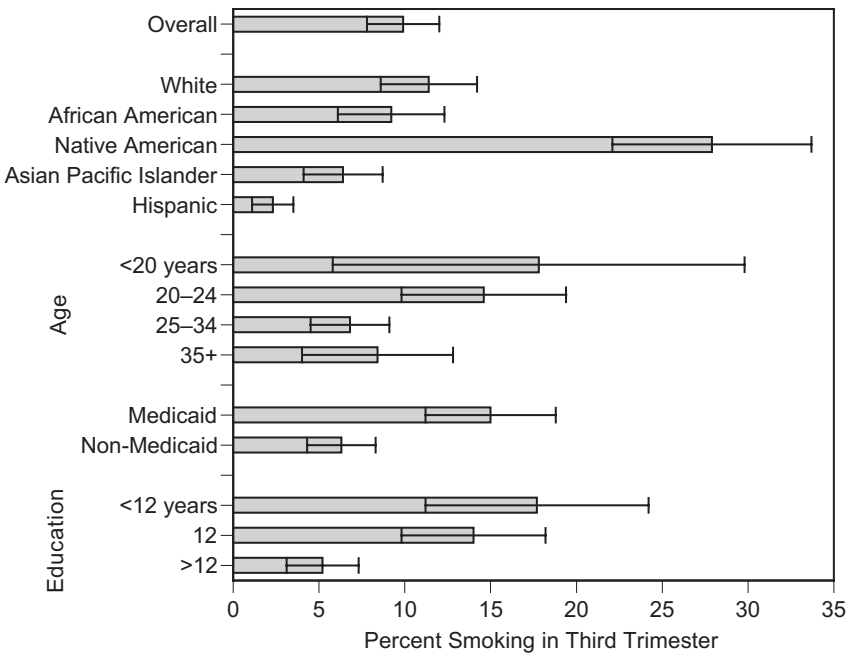
New interventions to help pregnant women quit smoking have been targeted through Maternity Support Services (MSS)/ First Steps, a maternity care program that serves low-income women. This program is administered by the Department of Health (DOH) and Department of Social and Health Services (DSHS). The agencies developed the new interventions with support from a broad planning group. A pilot training series with volunteer MSS/ First Steps agencies was conducted during 1999–2000.

Statewide implementation occurred between fall 2002 and fall 2003. The initiative aimed to improve the frequency and quality of brief clinical interventions and to urge their integration as a standard of care. Providers were trained to deliver the Public Health Service best practice model intervention ("5-A model"), which includes asking about tobacco use, giving advice to quit, assessment of willingness to quit, giving assistance with quitting, and arranging for follow-up. The Washington intervention also emphasized relapse prevention for postpartum women and creating specific plans to protect the child from exposure to secondhand smoke after birth. An evaluation of training outcomes among MSS/First Steps staff found increases in comfort and self-confidence in providing tobacco use and secondhand smoke interventions to clients.

Simultaneously, the TPC program increased Quit Line services to provide additional support for pregnant women and their families. In 2003, DOH and DSHS added "relapse prevention" and "protection of child from secondhand smoke" plans as contracted performance measures for MSS/First Steps agencies. Results of the healthcare system intervention described here will be expected for 2003 births and beyond.

This initiative is an example of a fully implemented *systems change* process. It identified a healthcare system that served high-risk groups within a population of interest, made available a proven practice for improvement, assessed needs and feasibility to implement the improvement, conducted broad education about expectations, provided additional resources to support change, and instituted measures of accountability.

FIGURE 1: Smoking during the third trimester of pregnancy, Washington State PRAMS 22001



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Monthly Surveillance Data by County

May 2004* – Washington State Department of Health

County	E. coli O157:H7	Salmonella	Shigella	Hepatitis A	Hepatitis B	Non-A, Non-B Hepatitis	Meningococcal Disease	Pertussis	Tuberculosis	Chlamydia	Gonorrhea	AIDS	Pesticides†	Lead§#
Adams	0	0	0	0	0	0	0	0	0	0	1	0	1	2/#
Asotin	0	0	0	0	0	0	0	0	0	2	0	0	0	0/0
Benton	2	0	0	0	0	0	0	0	0	32	1	0	4	0/6
Chelan	0	0	0	1	0	0	0	0	0	17	0	0	2	0/11
Clallam	0	0	0	0	0	0	0	0	0	18	0	0	0	0/0
Clark	2	5	1	3	0	0	0	1	1	63	10	0	1	0/#
Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Cowlitz	0	0	0	0	0	0	0	2	0	16	3	1	0	0/5
Douglas	0	0	0	0	0	0	0	0	0	7	0	0	0	0/0
Ferry	0	0	0	0	0	0	0	0	0	2	0	0	0	0/0
Franklin	1	0	0	0	0	0	0	0	0	9	0	2	1	0/0
Garfield	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Grant	0	0	0	0	0	0	0	0	0	16	2	0	2	1/20
Grays Harbor	0	0	0	0	0	0	0	0	0	15	0	0	0	1/#
Island	0	0	0	0	0	0	0	0	0	22	3	0	1	0/#
Jefferson	0	0	0	0	0	0	0	0	0	6	1	0	1	0/0
King	0	20	5	1	0	0	1	18	15	277	63	8	2	3/40
Kitsap	0	1	0	1	0	0	0	0	0	93	6	0	0	1/#
Kittitas	0	0	0	0	0	0	0	0	1	3	0	0	0	0/0
Klickitat	0	0	0	0	0	0	0	0	0	0	0	0	0	0/#
Lewis	0	0	0	0	0	0	0	0	0	43	3	0	0	0/0
Lincoln	0	0	0	0	0	0	0	0	0	2	0	0	0	0/0
Mason	0	0	0	0	0	0	0	0	0	11	0	0	0	0/0
Okanogan	0	0	0	0	0	0	0	0	0	20	0	0	0	0/0
Pacific	0	0	0	0	0	0	0	0	0	2	1	0	0	0/0
Pend Oreille	0	0	0	0	0	0	0	0	0	3	0	0	0	0/0
Pierce	0	1	1	0	0	1	0	5	2	227	40	3	6	0/5
San Juan	0	0	0	0	0	0	0	0	0	2	0	0	0	0/0
Skagit	0	0	0	0	0	0	0	0	0	25	1	0	1	0/0
Skamania	0	0	0	0	0	0	0	0	0	1	0	0	0	0/0
Snohomish	0	0	0	0	0	0	0	4	0	171	13	3	0	0/5
Spokane	0	3	0	1	0	0	1	0	0	111	8	1	0	1/6
Stevens	0	0	0	0	0	0	0	0	0	1	0	0	0	0/0
Thurston	0	1	0	0	0	0	0	1	0	70	3	0	0	0/#
Wahkiakum	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Walla Walla	0	0	0	0	0	0	0	0	0	5	0	2	1	1/32
Whatcom	0	0	0	0	0	0	0	1	1	44	5	0	0	1/#
Whitman	0	0	0	0	0	0	1	0	0	16	0	0	0	0/0
Yakima	0	3	2	1	1	0	0	10	1	71	11	0	8	0/5
Unknown														0/0
Current Month	5	34	9	8	1	1	3	42	21	1423	174	20	33	11/149
April 2003	5	66	27	8	12	3	4	46	28	1498	286	23	34	17/695
2004 to date	9	86	23	20	22	2	9	117	69	5640	863	165	61	34/1468
2003 to date	17	151	71	22	26	5	13	129	82	5358	1002	144	54	51/2099

* Data are provisional based on reports received as of April 30, unless otherwise noted.
† Unconfirmed reports of illness associated with pesticide exposure.
§# Number of elevated tests (data include unconfirmed reports) / total tests performed (not number of children tested); number of tests per county indicates county of health care provider, not county of residence for children tested; # means fewer than 5 tests performed, number omitted for confidentiality reasons.

Recent Adoptees from China Infected with Measles

WWW Access Tips

Information on measles is available on the Centers for Disease Control and Prevention website at: www.cdc.gov/ncidod/diseases/submenus/sub-measles.htm.

Vaccination has converted measles to an uncommon disease in the United States. Most cases of measles are introduced from other countries where vaccination is not routine. A recent example is an outbreak among children adopted from China.

A multistate outbreak of measles occurred during April in a group of 12 adoptees from China who arrived in the United States with their adoptive parents on March 26. Eight of the children (seven families) are residents of King and Snohomish counties in Washington, and the other four returned to Alaska, Florida, Maryland, and New York. Seven of the Washington children, and the children in New York and Maryland, were ultimately diagnosed with measles that was confirmed serologically. Six of the Washington cases occurred in King County and the seventh in Snohomish County. The child who has remained well is seven years old and is most likely immune due either to prior disease or immunization.

While the first case identified had onset of rash on April 3, it was later learned that three of the children were ill and contagious on their flights from China to the United States. These children had rash onsets of February 22, March 23, and March 30. Only one secondary case of measles resulted from this outbreak, in a college student in California who was exposed to one of the Washington adoptees.

The low number of secondary cases in this outbreak is most likely due to high vaccination coverage of our population.

However, this outbreak also illustrates the need for increased awareness of the potential for communicable diseases in children adopted from foreign countries where measles and other contagious diseases are endemic. Adoptive parents should ensure that they and their families are appropriately immunized before traveling overseas. Health care providers need to be alert for symptoms of measles and other febrile rash illnesses among children recently adopted from abroad, their household and family members, and social contacts.

Focus on *West Nile Virus* in the July Online EpiTrends

West Nile virus has spread across North American since 1999. To date, no human cases have been acquired in Washington State, although the virus has been found in birds and horses. What is the likelihood of a human case here in 2004? The July issue will report on:

- Nationwide WNV activity in 2004
- State surveillance activities
- Prevention tips

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